

PRC Environmental Management, Inc
233 North Michigan Avenue
Suite 1621
Chicago, IL 60601
312-856-8700
Fax 312-938-0118

EPA Region 5 Records Ctr.



390955

PRC

**PRELIMINARY ASSESSMENT/
VISUAL SITE INSPECTION**

**PIERCE AND STEVENS CHEMICAL CORP.
CAROL STREAM, ILLINOIS
ILD 055 434 443**

FINAL REPORT

Prepared for:

**U.S. ENVIRONMENTAL PROTECTION AGENCY
Office of Waste Programs Enforcement
Washington, DC 20460**

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PRC No.	:	R05032-IL31
Prepared By	:	Dynamac Corporation (Russ Crittenden)
Telephone No.	:	(312) 466-0222
Contractor Project Manager	:	Shin Ahn
Telephone No.	:	(312) 856-8700
EPA Work Assignment Manager	:	Kevin Pierard
Telephone No.	:	(312) 886-4448

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EXECUTIVE SUMMARY

Dynamac Corporation (Dynamac) performed a preliminary assessment and visual site inspection (PA/VSI) to identify and assess the existence and likelihood of releases from solid waste management units (SWMU) and other areas of concern (AOC) at the Pierce and Stevens Chemical Corp. (PSC) facility in Carol Stream, Illinois. This summary highlights the results of the PA/VSI and evaluates the potential for releases of hazardous wastes or hazardous constituents from SWMUs and AOCs identified.

The PSC facility employs approximately 36 personnel and manufactures adhesives and coatings. The facility is located on 11 acres in an industrial park within the city limits of Carol Stream, Illinois. PSC constructed the facility in 1972 on former agricultural land.

The primary hazardous waste streams generated at the PSC facility are waste toluene mixture (F003, F005, D001, D018, D035) and waste filter bags that have the same hazardous waste codes as the waste toluene mixture. The primary nonhazardous waste streams are waste coagulant, empty drums, and wastewater. PSC generates these wastes from production of adhesives and coatings and discarding unusable off-specification products returned by customers.

PSC submitted a Notification of Hazardous Waste Activity to the U.S. Environmental Protection Agency (EPA) as a generator and storage facility in 1980. PSC also submitted a RCRA Part A Permit Application in 1980 as a storage facility. In 1988, PSC submitted a request to withdraw their Part A with the Illinois Environmental Protection Agency (IEPA), but has not conducted any closure of their storage area. PSC is currently regulated as a large-quantity generator, and there is no documentation that PSC has ever stored hazardous wastes at the facility for more than 90 days.

The PA/VSI identified the following five SWMUs and three AOCs at the PSC facility:

Solid Waste Management Units

- 1 Central Accumulation Area
- 2 Waste Toluene Mixture Satellite Accumulation Drums
- 3 Waste Filter Bags Satellite Accumulation Drum
- 4 East Dock
- 5 Empty Drum Storage Area

Area of Concern

- 1 West Dock Underground Storage Tanks (UST)
- 2 North Pad USTs
- 3 East Pad USTs

PSC's Part A identified only SWMU 1 for hazardous waste storage. There have been no documented releases from any SWMU or AOC at the facility. There are two 10,000-gallon and twelve 5,000-gallon solvent USTs under the West Dock (AOC 1), and five of the 5,000-gallon USTs failed tightness testing in 1991. All fourteen USTs have been emptied, and there is no documentation of leakage from the USTs. No soils investigation has been initiated to determine conclusively if any releases occurred. PSC has not conducted testing on the eight 10,000-gallon solvent North Pad USTs (AOC 2) or three 7,500-gallon wax East Pad USTs (AOC 3).

The potential for releases to air from the facility SWMUs and AOCs is low. SWMUs 1, 2, 3, and 5 manage volatile wastes, but the wastes are contained in closed drums. SWMU 4 and AOC 3 do not manage volatile wastes. The potential for releases to the air from AOC 2 is low because air emissions from these USTs is regulated by an air permit and there have been no excessive emissions from these sources. The USTs in AOC 1 are currently empty.

The potential for releases to the soil or groundwater from the facility SWMUs is low because these SWMUs are either indoors on a concrete floor or outdoors on extensive concrete pads. The potential for release to the soil from AOCs 2 and 3 is moderate, because most USTs leak over time. The potential for release to soils from AOC 1 is moderate because some of the USTs leaked under test conditions. The potential for releases to groundwater from the facility AOCs is low to moderate, because groundwater is encountered at an estimated depth of 40 feet below the ground surface and the surficial soils are derived from a thick clayey till which would inhibit downward migration of contaminants. However, factors such as soil homogeneity and rain infiltration may affect migration.

The potential for release to surface water from the facility SWMUs is low because these SWMUs are located indoors on a concrete floor or outdoors on a extensive concrete pads. The potential for release to surface water from the facility AOCs is low because there is little chance for a surficial release from the USTs.

The PSC facility is located in an industrial park in Carol Stream, Illinois, which has a population of approximately 32,000 persons. The PSC facility is not fenced, but has 24-hour manned and electronic security. The nearest surface water body is an unnamed drainage ditch tributary to the West Branch of the Du Page River. This ditch flows through the facility property and along the south side of Kehoe Boulevard. The Du Page River is used for recreational purposes, such as canoeing and fishing, but there are no drinking water intakes located on the river.

Sensitive environments within two miles of the PSC facility include approximately 150 small mapped wetlands. These are mostly ponds and marshes of non-woody vegetation less than one acre in size, but approximately ten of the wetlands are more than ten acres in size. The nearest wetland is located on the facility property and is an excavated pond less than one acre in size.

Persons in Carol Stream obtain drinking water from wells drawing from shallow and deep bedrock aquifers. The nearest municipal wells are located approximately one-half mile south west of the facility, and draw from the deep bedrock aquifer.

Dynamac recommends that PSC continue to pursue resolution of UST closure. Specifically, a soils investigation should be conducted at AOC 1 to determine if a release has occurred from the USTs in this area. In addition, Dynamac recommends that the USTs in AOCs 2 and 3 be tightness tested, and that appropriate follow-up measures be taken should any of these USTs fail the test.

1.0 INTRODUCTION

PRC Environmental Management, Inc. (PRC), received Work Assignment No. R05032 from the U.S. Environmental Protection Agency (EPA) under Contract No. 68-W9-0006 (TES 9) to conduct preliminary assessments (PA) and visual site inspections (VSI) of hazardous waste treatment and storage facilities in EPA Region 5. PRC assigned Dynamac Corporation (Dynamac), its TES 9 subcontractor, to conduct the PA/VSI for the Pierce and Stevens Chemical Corp. (PSC) facility in Carol Stream, Illinois.

As part of the EPA Region 5 Environmental Priorities Initiative, the RCRA and CERCLA programs are working together to identify and address RCRA facilities that have a high priority for corrective action using applicable RCRA and CERCLA authorities. The PA/VSI is the first step in the process of prioritizing facilities for corrective action. Through the PA/VSI process, enough information is obtained to characterize a facility's actual or potential releases to the environment from solid waste management units (SWMU) and areas of concern (AOC).

A SWMU is defined as any discernible unit at a RCRA facility in which solid wastes have been placed and from which hazardous constituents might migrate, regardless of whether the unit was intended to manage solid or hazardous waste.

The SWMU definition includes the following:

- RCRA-regulated units, such as container storage areas, tanks, surface impoundments, waste piles, land treatment units, landfills, incinerators, and underground injection wells
- Closed and abandoned units
- Recycling units, wastewater treatment units, and other units that EPA has generally exempted from standards applicable to hazardous waste management units
- Areas contaminated by routine and systematic releases of wastes or hazardous constituents. Such areas might include a wood preservative drippage area, a loading-unloading area, or an area where solvent used to wash large parts has continually dripped onto soils.

An AOC is defined as any area where a release to the environment of hazardous waste or constituents has occurred or is suspected to have occurred on a nonroutine and nonsystematic basis. This includes any area where such a release in the future is judged to be a strong possibility.

The purpose of the PA is as follows:

- Identify SWMUs and AOCs at the facility.
- Obtain information on the operational history of the facility.
- Obtain information on releases from any units at the facility.
- Identify data gaps and other informational needs to be filled during the VSI.

The PA generally includes review of all relevant documents and files located at state offices and at the EPA Region 5 office in Chicago.

The purpose of the VSI is as follows:

- Identify SWMUs and AOCs not discovered during the PA.
- Identify releases not discovered during the PA.
- Provide a specific description of the environmental setting.
- Provide information on release pathways and the potential for releases to each medium.
- Confirm information obtained during the PA regarding operations, SWMUs, AOCs, and releases.

The VSI includes interviewing appropriate facility staff, inspecting the entire facility to identify all SWMUs and AOCs, photographing all SWMUs, identifying evidence of releases, initially identifying potential sampling locations, and obtaining all information necessary to complete the PA/VSI report.

This report documents the results of the PA/VSI of the PSC facility in Carol Stream, Illinois, EPA ID No. ILD 055 434 443. Dynamac gathered and reviewed information from the offices of the Illinois Environmental Protection Agency (IEPA) in Springfield, Illinois and from EPA Region 5 RCRA files. The PA was completed on December 19, 1991.

Russ Crittenden and Joseph Weslock of Dynamac conducted the VSI on January 27, 1992. The VSI consisted of an interview with facility representatives and a walk-through of the facility. Dynamac identified five SWMUs and three AOCs during the VSI.

The VSI is summarized and 13 inspection photographs are included in Attachment A. Field notes from the VSI are included in Attachment B.

2.0 FACILITY DESCRIPTION

This section describes the facility's location, past and present operations (including waste management practices), waste generating processes, history of documented releases, regulatory history, environmental setting, and receptors.

2.1 FACILITY LOCATION

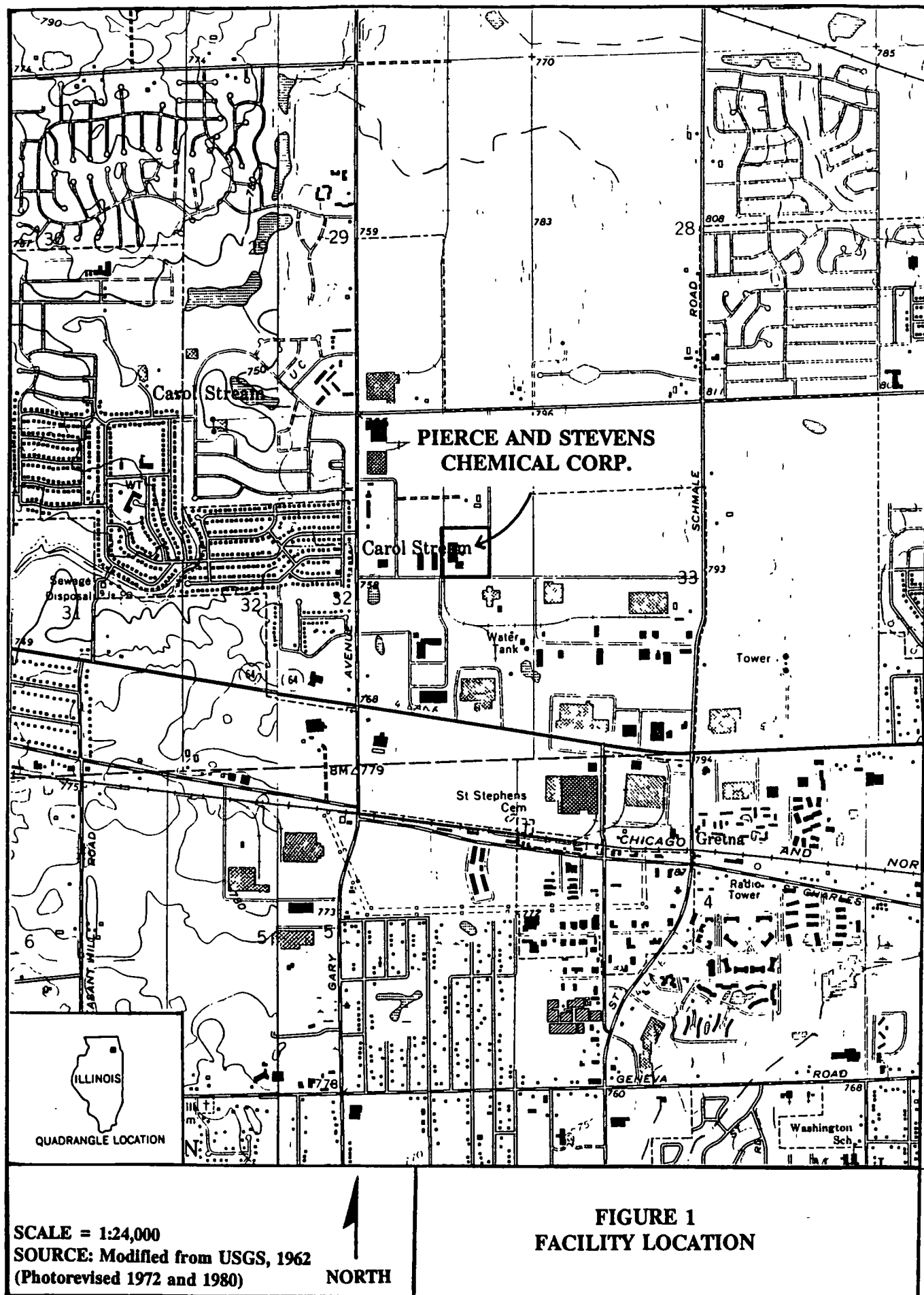
The PSC facility is located at 245 East Kehoe Boulevard, in the city of Carol Stream, Du Page County, Illinois (latitude 41° 54' 40" N and longitude 88° 06' 55" W (USGS, 1962))(See Figure 1). The facility occupies approximately 11 acres in an industrial park, approximately one-quarter of a mile east of the nearest residential area.

The facility is bounded by a small cornfield on the north, by Illinois Gulf Central Railroad tracks and another manufacturing firm on the west, by Kehoe Boulevard on the south, and by Kimberly Road on the east. A large open field separates the facility buildings from Kimberly Road on the east. A small drainage ditch flows south through the PSC facility property and discharges into a larger drainage ditch, which flows west along the south side of Kehoe Boulevard and discharges to the West Branch of the Du Page River. Access to the facility property is from Kehoe Boulevard. The facility is not fenced, but PSC maintains 24-hour manned and electronic security.

2.2 FACILITY OPERATIONS

The PSC facility manufactures adhesives, coatings and fillers. The adhesives and coatings are solvent-based, water-based dispersions, and hot melt formulations. The fillers are a proprietary thermoplastic microsphere technology. Facility operations include mixing and heating raw materials, filtering coatings, and forming adhesive pellets and microspheres. All facility operations take place in the 60,000-square-foot facility building (plant). Raw materials include solvents, nitrocellulose, acids and caustics, resins, polymers, waxes, oils, plasticizers, and soaps.

Solvent-based adhesives and coatings are produced by mixing solvents and other ingredients in one of approximately 16 mixers, and then filtering the product as it is drained into drums for storage prior to sale. The mixers each have a capacity of 2,000 gallons, and are mounted between floors so that they can be filled from the second floor and emptied from the first floor. Water-based dispersion adhesives and coatings are produced from solvent-based mixtures, and the solvents are then removed as the water and a coagulant is added, leaving a dispersion of resins in water. Hot melt adhesives are mixed in heated 2,000-gallon kettles and extruded in continuous strands into a water bath which cools and hardens the material. PSC then slices the strands into pellets which are packaged for selling. PSC produces microspheres from a solvent-based mixture, which they form into tiny hollow spheres and coat with calcium carbonate. The facility uses a total of approximately 18 mixers and kettles. Whenever possible, PSC reuses clean-up solvents, solvents removed from water-based dispersions, and also returned products which are rejected by customers, as start-up material for new batches.



Solvents are stored in the raw material warehouse in drums and in eight 10,000-gallon underground storage tanks (UST) in the north pad area (AOC 2). Until 1991, twelve 5,000-gallon USTs and two 10,000-gallon USTs located under the west dock (AOC 1) were also used for bulk storage of solvents. Waxes are stored in molten bulk in three 7,500-gallon USTs under the east dock (AOC 3). All other raw materials are stored in drums in the raw material warehouse and the raw material shed north of the plant.

PSC is a wholly owned subsidiary of Pratt and Lambert, Inc., headquartered in Buffalo, New York. PSC has operated this facility since 1972, when it constructed the facility on agricultural land. There have been no changes in process since that time, with the exception of the addition of the microsphere process in 1990. The facility currently employs approximately 25 factory workers and approximately 11 office personnel. There are two shifts per day. Security personnel are present 24 hours per day, seven days a week.

PSC manages wastes in five SWMUs. Hazardous wastes are accumulated in two Waste Toluene Mixture Satellite Accumulation Drums (SWMU 2) and one Waste Filter Bags Satellite Accumulation Drum (SWMU 3). Hazardous and nonhazardous wastes are managed in the Central Accumulation Area (SWMU 1). Nonhazardous wastes are also managed in the East Dock (SWMU 4), and empty drums are managed in the Empty Drum Storage Area (SWMU 5). Facility SWMUs are identified in Table 1. Figure 2 illustrates the facility layout and shows the location and number of SWMUs and AOCs.

2.3 WASTE GENERATING PROCESSES

The primary hazardous waste streams generated at the PSC facility are waste toluene mixture containing toluene, acetone, methyl ethyl ketone (MEK), xylene, ethyl acetate, and benzene (F003, F005, D001, D018, D035), and waste filter bags containing the same constituents (F003, F005, D001, D018, D035). The primary nonhazardous waste streams are waste coagulant, empty drums, and wastewater. These wastes are generated during production, cleanup and discarding unusable customer returns. Wastes generated at the facility are discussed below and are summarized in Table 2. Waste generation rates are based on 1990 and 1991 waste generation data.

PSC produces adhesives and coatings with a wide variety of formulations and the waste toluene mixture (F003, F005, D001, D018, D035) generated at the facility is a combined and variable waste stream. Waste toluene mixture is generated from cleanup of parts, mixers, and kettles, and from unusable customer returns. Following the completion of batches of adhesives or coatings, PSC cleans the mixers or kettles with the solvent appropriate to the adhesive or coating formulation. Parts are cleaned in one of three toluene parts washers. Waste solvent from cleanup of the interior of the mixers and kettles is often reused as start-up solvent in a new batch of product. Waste toluene mixture from the cleanup of the external parts of the mixers and kettles or from the parts washers usually cannot be used, and is accumulated in one of the two Waste Toluene Mixture Satellite Accumulation Drums (SWMU 2), which are located on the first and second floors of the

TABLE 1
SOLID WASTE MANAGEMENT UNITS (SWMU)

SWMU Number	SWMU Name	RCRA Hazardous Waste Management Unit*	Status
SWMU 1	Central Accumulation Area	Yes	No RCRA-closure. Active for less than 90-day storage of hazardous wastes.
SWMU 2	Waste Toluene Mixture Satellite Accumulation Drums	No	Active for accumulation of hazardous wastes.
SWMU 3	Waste Filter Bags Satellite Accumulation Drum	No	Active for accumulation of hazardous wastes.
SWMU 4	East Dock	No	Active.
SWMU 5	Empty Drum Storage Area	No	Active.

* A RCRA hazardous waste management unit is one that currently requires or formerly required submittal of a RCRA Part A or Part B permit application.

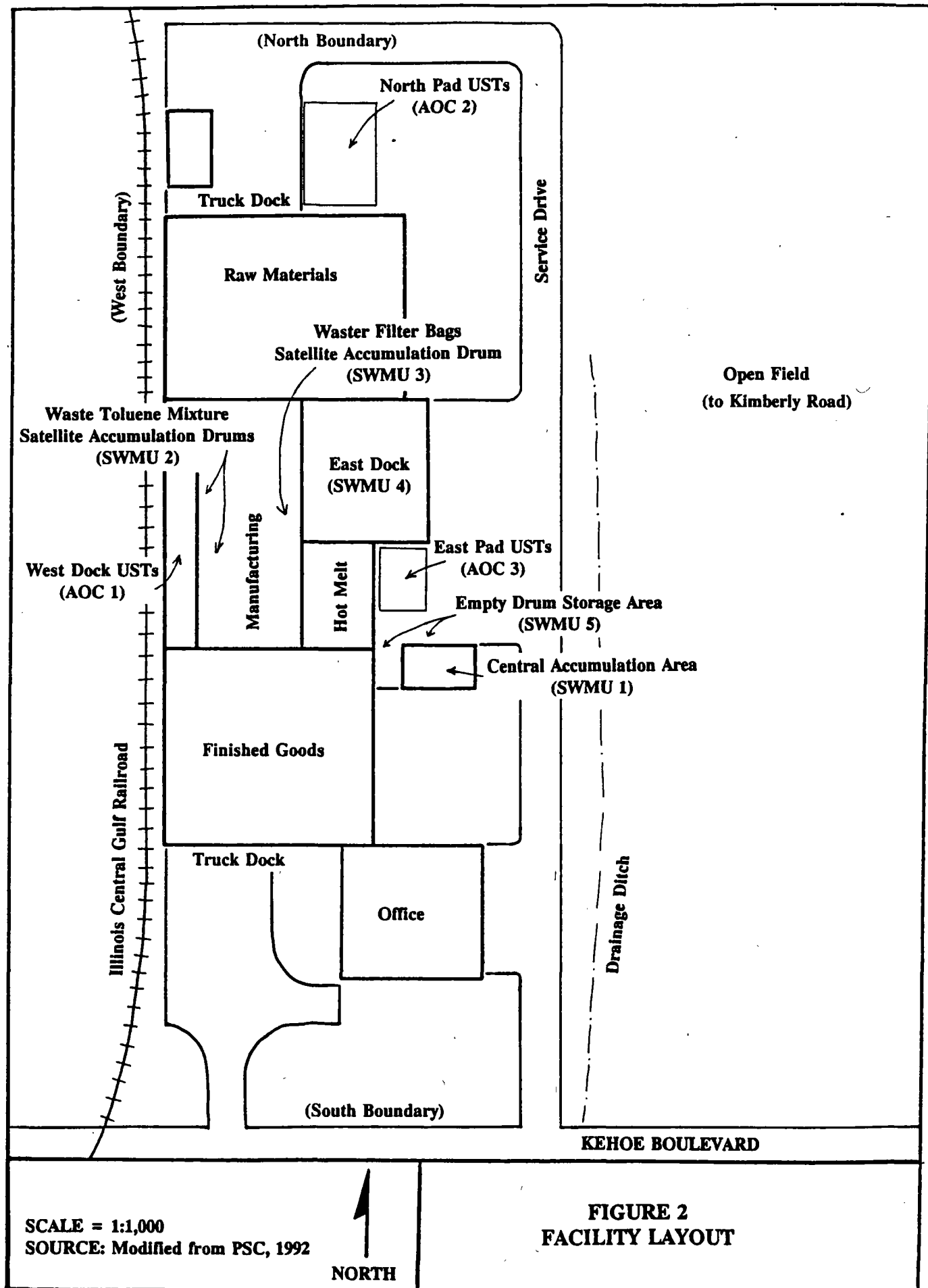


TABLE 2
SOLID WASTES

Waste/EPA Waste Code	Source	Primary Management Unit*
Waste toluene mixture/ (F003, F005, D001, D018, D035)	Clean-up, production, and unusable customer returns.	1, 2
Waste filter bags/ (F003, F005, D001, D018, D035)	Filtering of finished adhesives and coatings during packaging.	1, 3
Waste coagulant/ NA**	Production of water- based adhesives and coatings.	1, 4
Empty drums/ NA**	Consumption of products	5

* Primary management unit refers to a SWMU that currently manages or formerly managed the waste.

** Nonapplicable (NA) designates nonhazardous waste.

manufacturing area of the plant. When these satellite accumulation drums are full they are transferred to the Central Accumulation Area (SWMU 1).

PSC accepts off-specification product returns from their customers. These products are stored in 55-gallon drums throughout the plant, and are reworked into new product batches whenever possible. When reworking is not possible, the drums are labeled as waste toluene mixture and transferred to the Central Accumulation Area (SWMU 1). In 1991, PSC shipped approximately 14,700 gallons of waste toluene mixture (F003, F005, D001, D018, D035) to Avganic Industries, Cottage Grove, Wisconsin, where it was burned as industrial fuel. PSC representatives estimate that 80 to 85 percent of this waste toluene mixture is generated from customer returns, and the remainder from cleanup.

PSC generates waste filter bags (F003, F005, D001, D018, D035) during the process of draining mixer and kettles into product drums. The product passes through the filter and particles and other impurities are captured in the filter. The waste filter bags contain the same solvents and hazardous constituents as the products they filter. PSC accumulates the waste filter bags in the Waste Filter Bags Satellite Accumulation Drum (SWMU 3) located in the first floor of the manufacturing area of the plant. When this drum is full, PSC transfers it to the Central Accumulation Area (SWMU 1). In 1991, PSC shipped thirteen 55-gallon drums of waste filter bags to Environmental Waste Resources, Inc., Coal City, Illinois, for secondary fuel incineration.

PSC generates nonhazardous waste coagulant during the production of water-based dispersion adhesives and coatings. The coagulant is a wax and resin powder which PSC accumulates in plastic-lined, one-cubic-yard cardboard boxes or in 55-gallon fiber barrels. PSC transfers the waste coagulant to the East Dock (SWMU 4) or to the Central Accumulation Area (SWMU 1) upon generation. In 1991, PSC shipped approximately 16 cubic yards of waste coagulant to Altrachem Landfill, Joliet, Illinois, for disposal.

PSC began production of microsphere fillers in 1990, and has not yet generated or shipped any wastes from this process. Calcium carbonate dust overspray is collected in a vacuum system and baghouse, and drummed for reuse.

PSC purchases resins, polymers, plasticizers, soaps, acids and caustics, oils, and some solvents in 55-gallon drums. Some vendors reuse their empty drums and others do not. All empty drums (containing less than one inch of product) are stored in the Empty Drum Storage Area (SWMU 5) located on the east side of the plant. The empty drums which are not returned to the vendors are shipped off-site for reconditioning to American Steel Container Co., Chicago, Illinois (PSC, 1992). Dynamac observed approximately 150 empty drums awaiting return to the vendors and 300 empty drums awaiting transport to the reconditioner at the facility during the VSI. Facility representatives estimate that PSC generates approximately 200 empty drums per week.

PSC generates wastewater from contact cooling of hot melt adhesive and non-contact boiler cooling. Hot melt adhesives are extruded in continuous strands from the kettles into a water bath where the strands cool and harden. The contact cooling water and non-contact cooling wastewater are discharged to the drainage ditch along Kehoe Boulevard. This discharge is regulated under a National Pollutant Discharge Elimination System (NPDES) permit. PSC has two outfalls, one for non-contact cooling water and one for contact cooling water. During 1991, PSC discharged a total of approximately 36,000 gallons per day of contact and non-contact cooling water.

2.4 HISTORY OF DOCUMENTED RELEASES

This section discusses the history of documented releases to ground water, surface water, air, and on-site soils at the PSC facility.

UST Release(s)

In July and August 1991, PSC conducted tightness testing on 14 USTs located under the West Dock (AOC 1), and found that five of the USTs leaked under test conditions. During the test, the five USTs leaked at an average rate of 0.245 gallons per hour (CPI, 1991). Prior to the test, PSC had not recorded any inventory discrepancies or other evidence of release. PSC immediately emptied the five USTs which failed the test, and emptied the other nine USTs during the fall of 1991. Two of the USTs had a capacity of 10,000 gallons and the remainder had a capacity of 5,000 gallons each. The USTs are set on a concrete pad and are two-thirds above grade under the raised West Dock. However, the USTs are not completely enclosed by the concrete pad, the dock wall and top, and the plant foundation wall. PSC submitted a 20-Day Report to IEPA on August 27, 1991, and indicated that there was no visible evidence of a release, and there were no measurable combustible vapors in the air space immediately above the five USTs (Pratt and Lambert, 1991c). PSC submitted a 45-Day Report to IEPA on September 19, 1991, which included information on area hydrogeology and stated that no product had been detected in the monthly analyses of water from the nearby drainage ditch that accepts PSC's NPDES discharge (Pratt and Lambert, 1991d). At the time of the VSI, PSC was in the process of deciding whether to remove, abandon in place, or restore these USTs. No tightness testing has been performed on the North Pad USTs (AOC 2) or East Pad USTs (AOC 3).

Chromium Release

During the installation of a new heat exchanger on the facility boiler in April 1986, PSC released an unknown quantity of a chromium-containing fluid to the drainage ditch. The non-contact cooling water system was being flushed and a bright green effluent was accidentally discharged to an abandoned floor drain instead of the sanitary sewer. The discharge lasted for approximately 10 minutes. IEPA personnel were at the facility at the time of the discharge, and collected samples. Analysis of the water samples showed hexavalent chromium at a concentration of 44 milligrams per liter (mg/l) (IEPA, 1986a). IEPA sent a Compliance

Inquiry Letter to PSC on May 28, 1986, requesting an explanation of the discharge (IEPA, 1986b). PSC responded that to the best of their knowledge, the floor drain probably contained a residual quantity of a cupric solution with chromium inhibitors, which had been used in an obsolete heat exchanging process. This residual solution was pushed out of the drain by the flushing incident. PSC stated that the floor drain had not been used since 1974, and that they had since sealed the drain to prevent future use (PSC, 1986). PSC does not use chromium in their process, nor in their current heat exchanger. There has been no sampling of sediments in the drainage ditch or other follow-up to this release incident.

2.5 REGULATORY HISTORY

RCRA

According to facility representatives, PSC submitted a Notification of Hazardous Waste Activity (EPA Form 8700-12) to EPA in 1980. A copy of this document was not available in EPA, IEPA, or facility files, and the wastes types recorded on the form are unknown. PSC notified as a generator and storage facility, as a protective measure. The facility submitted a RCRA Part A permit application (Part A) on November 19, 1980. The Part A indicated that the facility had a container storage capacity of 5,000 gallons, and that the estimated annual quantity of waste was a total of 8,200 gallons per year of F002, F003, F005, K078, K079, K081, and K082 wastes. The storage unit identified on the Part A was the Central Accumulation Area (SWMU 1) (PSC, 1980).

In February 1988, IEPA conducted a compliance inspection of the PSC facility and found the following violations: improper waste identification, inadequate personnel training program, and an incomplete contingency plan (IEPA, 1988b). In addition, PSC had the following land disposal restriction violations: failure to determine appropriate treatability group, failure to determine whether the waste exceeds treatment standards, and failure to provide a separate written notice of land disposal restriction information along with manifests. PSC attended a Pre-Enforcement Conference at IEPA on July 29, 1988, and then submitted a response to the violations to IEPA on August 11, 1988 (PSC, 1988b). IEPA notified PSC that they had resolved their violations on October 17, 1988 (IEPA, 1988c).

PSC has filed several requests for withdrawal of their Part A permit to the IEPA. The last request was submitted on March 11, 1988, and stated that the facility had never stored hazardous wastes for more than 90 days (PSC, 1988a). At the time of the VSI, PSC had not received formal approval of their request to withdraw the Part A. No closure of the Central Accumulation Area has been requested by IEPA or undertaken by PSC. According to the 1988 IEPA inspection report, PSC is being regulated as a generator of hazardous wastes (IEPA, 1988b).

Clean Water Act

PSC discharges contact and noncontact cooling water through two outfalls under NPDES permit No. 0063975. Outfall 001 discharges non-contact cooling water and outfall 001A

discharges contact cooling water. PSC's outfalls are adjacent and discharge to a drain tributary to the West Branch of the Du Page River. The NPDES permit was issued in 1991 and requires that PSC monitor the discharge monthly for flow rate, pH, Biological Oxygen Demand (BOD), chromium, oil and grease, total suspended solids, and temperature (IEPA, 1991d). PSC has violated the conditions of the NPDES permit only during a momentary release of chromium in 1986 (See Section 2.4, History of Documented Releases for more information on this release). PSC's discharge routinely exceeds the BOD limitation of 10 mg/l, but this is due primarily to the high BOD of the municipal water supply PSC uses, which is occasionally as high as 15 mg/l (Pratt and Lambert, 1991a). IEPA determined that the incidentally high BOD is not considered a violation of the permit (IEPA, 1991d).

Clean Air Act

PSC has and is required to have one air permit (No. 72111157) for the mixers, kettles, and boilers at the facility. The permit was first issued in 1972, and the most recent permit was issued in 1991. The permit limits total volatile organic compound (VOC) emissions to 66 tons per year, and calcium carbonate dust emissions (from microsphere coating operations) to 0.44 tons per year (IEPA, 1991c). IEPA conducted a number of air emissions inspections of the PSC facility and no compliance problems were noted through 1990, except that the facility had allowed their permit to expire on August 29, 1989 (IEPA, 1976, 1980, 1981, 1984, 1985, 1986c, 1988a, 1989, and 1990). PSC submitted a renewal application for the air permit in January 1990, and IEPA issued the renewal (IEPA, 1991a). IEPA conducted a compliance inspection on February 5, 1991, and determined that the facility should be subject to new emissions requirements limiting maximum uncontrolled VOC emissions to less than 5.0 tons per year. Two of PSC's mixers are equipped with solvent recovery condensers, and the remaining mixers have uncontrolled emissions (IEPA, 1991a). In a response to IEPA's subsequent Compliance Inquiry Letter (IEPA, 1991b), PSC disagreed with the inspector's interpretation and raised several other issues (Pratt and Lambert, 1991b). PSC submitted a request for a permit appeal hearing before the Illinois Pollution Control Board on June 18, 1991 (PSC, 1991). This issue was unresolved at the time of the VSI.

The facility has no history of odor complaints from area residents.

Underground Storage Tanks

PSC currently uses a total of 11 USTs, located in two areas. Three 7,500-gallon USTs are located under the East Pad (AOC 3). These USTs store bulk molten wax. Eight 10,000-gallon USTs are located under the North Pad (AOC 2). These USTs are used to store bulk solvents. Until 1991, PSC also used an additional 14 solvent USTs under the West Dock (AOC 1). Five of these tanks failed tightness tests conducted in July and August 1991, and all 14 tanks have since been emptied. There is no evidence that these tanks leaked prior to the test (See Section 2.4, History of Documented Releases).

2.6 ENVIRONMENTAL SETTING

This section describes the climate, flood plain and surface water, geology and soils, and groundwater in the vicinity of the PSC facility.

2.6.1 Climate

The PSC facility is located approximately 10 miles west of O'Hare International Airport, the nearest National Weather Service office. The climate in this area is continental with cold winters and warm summers. Lake Michigan has a moderating influence on temperature extremes, but this influence decreases westward. The average annual daily temperature is 49.2° Fahrenheit (°F). The highest average daily temperature is 73.0°F in July, and the lowest average daily temperature is 21.4°F in January (NOAA, 1990). Mean annual precipitation is 33.34 inches, and mean annual lake evaporation is approximately 30 inches; net annual precipitation is approximately 3 inches. The one-year 24-hour rainfall is approximately 2.4 inches (NOAA, 1979). The prevailing wind direction is west-southwest and the average wind speed is 10 miles per hour. The wind is strongest in April, blowing an average of 12 miles per hour (NOAA, 1990).

2.6.2 Flood Plain and Surface Water

The PSC facility is in an area of minimal flooding. The drainage ditch south of Kehoe Boulevard lies in a 100-year flood plain (FEMA, 1982). The nearest surface water bodies are the unnamed drainage ditches flowing south through the facility property and west along the south side of Kehoe Boulevard. Surface water runoff from the facility enters these drainage ditches. These drains discharge to the West Branch of the Du Page River at a point approximately three miles southwest of the facility. The Du Page River flows south and discharges to the Des Plaines River southwest of Joliet, Illinois (USGS, 1962). The Du Page River is used for fishing and canoeing, but is not used for drinking water.

2.6.3 Geology and Soils

The soils of the PSC facility are mapped as Urban land/Orthents, due to the cutting and filling associated with construction. These are clayey soils in this area. Soils of the area surrounding the facility include Ashkum silty clay loam and Varna silt loam. Ashkum silty clay loam is a deep, poorly drained, moderately slowly permeable soil developed in thin loess silty clay loam till. Varna silt loam is a deep, moderately well drained, moderately to slowly permeable soil developed on thin loess overlying silty clay loam till (SCS, 1979).

The surficial deposits in the area around the PSC facility are mapped as the Wadsworth Till Member of the Wedron Formation. The Wadsworth Till is a thick and extensive, gray silty clay loam glacial till with few pebbles and cobbles. Some isolated lenses of sand and gravel may be present in the subsurface of the till (Lineback, 1979). The total thickness of the glacial deposits is approximately 100 feet in the area of the facility (Willman, 1971).

The bedrock underlying the glacial deposits at the PSC facility consists of Silurian-age dolomite. The dolomite is approximately 200 feet thick in this area and includes portions of the Niagran and Alexandrian Dolomites. The Niagran Dolomite is largely composed of massive reef complexes of pure dolomite separated by zones of silty, argillaceous and cherty dolomite. The Alexandrian Dolomites are well bedded, generally white or gray with cherty zones and occasional green or red shaly beds. Underlying these dolomites is the Ordovician-age Maquoketa Shale, which is red and oolitic at the top, and greenish gray and dolomitic at depth. The Maquoketa Shale is approximately 200 feet thick. Several thousand feet of Ordovician-age and Cambrian-age dolomites and sandstones underlie the Maquoketa Shale (Willman, 1971).

2.6.4 Groundwater

There is no facility-specific groundwater information available. Regionally, there are three aquifers: 1) a drift aquifer, 2) a shallow bedrock aquifer, and 3) a deep bedrock aquifer. The drift aquifer is limited to occasional sand and gravel lenses. It is unconfined and extends from the water table, estimated at approximately 40 feet below ground surface (BGS), to the bedrock at approximately 100 feet BGS (Pratt and Lambert, 1991d). The drift aquifer is hydraulically connected to the underlying Silurian-age Dolomite, which comprises the shallow bedrock aquifer. The dolomite aquifer has variable characteristics due to variations in fracturing and solution openings. The shallow bedrock aquifer is approximately 100 feet thick, and is underlain by the Maquoketa Shale. The deep bedrock aquifer underlies the Maquoketa shale and comprises the Ordovician-age and Cambrian-age dolomites and sandstones. The Maquoketa Shale serves as a confining layer over the deep bedrock aquifer (Hughes, Kraatz, and Landon, 1966). The city of Carol Stream utilizes the shallow and deep bedrock aquifers, and there are no known wells drawing from the drift aquifer in this area (Carol Stream Water Department, 1992). There are no monitoring wells at the facility. Groundwater flow direction in the drift and shallow bedrock aquifers is not known for this area. Regionally, the deep bedrock aquifer flows to the east (Schicht, Adams, and Stall, 1976).

2.7 RECEPTORS

The 11-acre PSC facility is located in Carol Stream, Illinois, a rapidly growing suburban area of the metropolitan Chicago region. Carol Stream has a population of approximately 32,000 persons. The facility is located in an industrial park east of the residential portions of the city. The facility is bounded on all sides by roads and other industrial facilities, except for a small corn field on the north side. The nearest residence is approximately one-quarter mile west of the facility, and the nearest school is approximately one mile west of the PSC facility. The facility is not fenced, but has 24-hour manned and electronic security.

The nearest surface water bodies are unnamed drainage ditches which discharge to the West Branch of the Du Page River. The Du Page River is used for recreational purposes, such as fishing and canoeing. No drinking water intakes are located on the Du Page River. There is little potential for human or environmental impact from releases to surface water at the PSC facility.

Sensitive environments within two miles of the PSC facility include approximately 150 small mapped wetland areas. Approximately ten of these wetland areas exceed ten acres in size, and the remainder are for the most part one acre or less in size. The nearest wetland is located on the PSC facility property (See Figure 2). This wetland is an excavated pond with an unconsolidated bottom. This wetland is less than one acre in size, with less than 30 percent of that area supporting vegetation. The wetlands in the surrounding area are principally ponds and marshes with non-woody emergent vegetation. Less common wetlands in the vicinity of the facility include forested wetlands and intermittent riverine wetlands (USDI, undated).

Persons in the city of Carol Stream obtain drinking water from wells drawing from the shallow and deep bedrock aquifers. The nearest municipal wells are located approximately one-half mile southwest of the PSC facility. These two wells are completed in the deep bedrock aquifer at depths of 1,200 and 1,900 feet BGS, and may be upgradient of the facility, depending on the extent of the cone of depression. A release to groundwater from the PSC facility would be unlikely to impact the drinking water supply of the area.

3.0 SOLID WASTE MANAGEMENT UNITS

This section describes the five SWMUs identified during the PA/VSI. The following information is presented for each SWMU: description of the unit, dates of operation, wastes managed, release controls, history of documented releases, and Dynamac observations. Figure 2 shows the SWMU locations.

SWMU 1

Central Accumulation Area

Unit Description:

The Central Accumulation Area is located within a 25-foot by 50-foot shed outside the east side of the plant (See Figure 2). This unit is used for the accumulation of up to three hundred 55-gallon steel drums of hazardous wastes and material to be reused. The unit is also used for the storage of nonhazardous wastes in 55-gallon fiber barrels and plastic pails (See Photo Nos. 1, 2, and 3). The unit is constructed of aluminum and cinder block walls, and a concrete floor. The north side of the unit has no wall, but is fenced. The entrance to the Central Accumulation Area is a locked gate (See Photo No. 1).

Date of Startup:

This unit began operations in approximately 1975.

Date of Closure:

PSC filed an application with IEPA in 1988 to withdraw their Part A. PSC has not received approval of this application and the Central Accumulation Area has not undergone closure. There is no documentation that the unit was ever used for storage of hazardous wastes for more than 90 days. The Central Accumulation Area is active for less than 90 day storage of hazardous wastes.

Wastes Managed:

Hazardous Wastes managed include: waste toluene mixture containing toluene, acetone, MEK, xylene, ethyl acetate, and benzene (F003, F005, D001, D018, D035), and waste filter bags containing the same constituents. This unit also manages one nonhazardous waste, waste coagulant. All hazardous wastes managed in this unit are transported off-site for fuel blending or disposal. Nonhazardous wastes are transported off-site for landfill disposal.

Release Controls:

The concrete floor which extends beyond the unit partially controls releases to the soil, but there are no berms or additional release controls in this unit. The drums and containers are stored closed.

History of
Documented
Releases:

There are no documented releases from this unit.

Observations:

The containers managed in the area were closed and in good condition. Dynamac observed the following containers: eleven 55-gallon drums of waste toluene mixture; fifty-five fiber 55-gallon barrels and thirty plastic 5-gallon pails of waste coagulant; ninety-one 55-gallon drums of rework material; six 55-gallon drums of vacuum pump oil for reuse; and one 55-gallon drum of asphalt for future use. There were no stains on the concrete floor or other signs of spills.

SWMU 2

Waste Toluene Mixture Satellite Accumulation Drums

Unit Description:

This unit consists of two 55-gallon steel drums used to accumulate waste solvents from cleanup operations. One of the drums is located on the second floor of the manufacturing area of the plant (See Photo No. 4). This drum accepts dirty solvents from the cleanup of the top and exterior of the facility mixers and kettles. The second drum is located on the first floor of the manufacturing area (See Photo No. 5), and accumulates waste solvents from the cleanup of the mixer and kettle interiors. PSC uses five-gallon pails to transfer the waste solvent from the kettles and mixers to the Satellite Accumulation Drums.

Date of Startup:

This unit has been in operation since 1972.

Date of Closure:

This unit is currently active.

Wastes Managed:

This unit manages waste toluene mixture containing toluene, acetone, MEK, xylene, ethyl acetate, and benzene (F003, F005, D001, D018, D035). PSC transfers the full drums to the Central Accumulation Area (SWMU 1).

Release Controls:

This unit is indoors. One drum is kept closed except when being filled and the other is filled through a closable funnel, which is kept closed.

History of
Documented
Releases:

There is no documentation of a release from this unit.

Observations: Dynamac observed that this unit was well maintained. The drums and funnel were closed and marked. Dynamac notes that one full drum of waste toluene mixture had been moved from the Satellite Accumulation Area, but had not been taken all the way to the Central Accumulation Area (SWMU 1). This drum was on a pallet in the finished goods area of the plant (See Photo No. 6). PSC representatives stated the employee authorized to put the drums in the Central Accumulation Area was not present, and the drum would be moved on his return.

SWMU 3

Waste Filter Bags Satellite Accumulation Drum

Unit Description: This unit consists of one 55-gallon steel drum located on the first floor of the manufacturing area (See Photo No. 7). The unit manages waste filter bags generated in transfer of product from the mixers to drums.

Date of Startup: This unit began operations in 1972.

Date of Closure: This unit is currently active.

Wastes Managed: This unit manages waste filter bags containing toluene, acetone, MEK, xylene, ethyl acetate, and benzene (F003, F005, D001, D018, D035). PSC transfers the full drum to the Central Accumulation Area (SWMU 1).

Release Controls: This unit is located indoors, and the drum is kept closed when not being filled.

History of Documented Releases: There are no documented releases from this unit.

Observations: Dynamac observed that this unit was well maintained and there was no evidence of spillage.

SWMU 4**East Dock****Unit Description:**

This unit consists of an 85-foot by 100-foot multiple purpose concrete-floored room within the plant. Portions of the East Dock are used for the storage of nonhazardous waste coagulant (See Photo Nos. 8 and 9). The waste coagulant is stored in a variety of containers, including 55-gallon fiber barrels, plastic-lined 1-cubic-yard cardboard boxes, and steel and plastic 5-gallon pails. The capacity of this unit is variable depending on the quantity of other materials stored here.

Date of Startup:

This unit has been in use since 1976.

Date of Closure:

This unit is currently active.

Wastes Managed:

This unit manages nonhazardous waste coagulant. This waste is an Illinois special waste. It is shipped off-site for disposal.

Release Controls:

This unit is located indoors on a concrete floor, and the drums are stored closed. There are no other release controls.

**History of
Documented
Releases:**

There is no documentation of a release from this unit.

Observations:

Dynamac observed containers of waste coagulant in three separate groups in the East Dock. The unit was clean and free of debris.

SWMU 5**Empty Drum Storage Area****Unit Description:**

This unit consists of a portion of a concrete pad on the east side of the plant. This unit measures approximately 30 feet by 80 feet. This portion of the pad is used to store empty drums containing less than one inch of product. The drums are separated into two groups: drums for return to the original vendor (See Photo No. 10), and other drums for shipment to a drum reconditioner (See Photo No. 11).

Date of Startup:

PSC has stored empty drums at this unit since 1972.

Date of Closure:

This unit is currently active.

Wastes Managed: This unit manages closed and empty drums which formerly contained a wide variety of solvents and other raw materials.

Release Controls: The unit is located on a concrete pad, and the drums are empty and closed. There are no other release controls.

History of Documented Releases: There is no documentation of a release from this unit.

Observations: The concrete pad was clean and there was no evidence of spills. Dynamac observed approximately 450 empty 55-gallon drums.

4.0 AREAS OF CONCERN

Dynamac identified three AOCs during the PA/VSI. These AOCs are discussed below. See Figure 2 for the location of the AOCs.

AOC 1

West Dock USTs

The West Dock is a raised concrete pad measuring approximately 20 feet by 140 feet by 4 feet high (See Figure 2 and Photo No. 12). A total of fourteen USTs are located under the dock. Each UST is approximately two-thirds above grade and one-third below grade. The USTs rest on a concrete pad, and are almost fully encased in a concrete vault. The underlying concrete pad does not extend the full 20 feet across the dock. The USTs were installed in 1972. In July and August 1991, PSC contractors conducted tightness testing on the USTs, and five of the USTs failed the test. The results of the test, and the size and contents of each UST are summarized below (CPI, 1991).

<u>UST</u>	<u>Capacity (gallons)</u>	<u>Contents</u>	<u>Pass/Fail</u>
1	10,000	water	Pass
2	10,000	toluene	Pass
3	5,000	super lacolene	Pass
4	5,000	super lacolene	Fail
5	5,000	isopropyl alcohol	Fail
6	5,000	toluene	Pass
7	5,000	toluene	Pass
8	5,000	isopropyl acetate	Pass
9	5,000	toluene	Pass
10	5,000	acetone	Fail
11	5,000	ethyl acetate	Fail
12	5,000	MEK	Pass
13	5,000	hexane	Fail
14	5,000	varnish makers and painters naphtha	Pass

PSC notified IEPA of the test results and indicated that there had never been an inventory discrepancy, noticeable odor, or other evidence that the USTs had ever leaked prior to the test (Pratt and Lambert, 1991c). The five USTs which failed the test were immediately emptied, and the remaining tanks were all drained in the fall of 1991. There has been no excavation or soils investigation to date. PSC is in the process of deciding whether to remove the USTs, abandon them in place, or attempt to restore them.

This area has been designated an AOC because five of the USTs had leaked under test conditions. Although there is no evidence that the USTs released solvents to the soil, future investigations may demonstrate that a release did occur.

AOC 2

North Pad USTs

PSC maintains eight steel 10,000-gallon solvent USTs in the area just north of the plant and east of the north truck dock (See Figure 2 and Photo No. 13). These USTs were installed in the late 1970s, and have not been subjected to tightness testing. There has been no evidence of release from these USTs, but due to the fact that they have not been leak-tested, the possibility of future leakage cannot be eliminated.

AOC 3

East Pad USTs

PSC maintains three steel 7,500-gallon molten wax USTs under the concrete pad on the east side of the plant (See Figure 2). The USTs are located immediately north of the Empty Drum Storage Area (SWMU 5) (See Photo No. 10). These USTs were installed in 1972, and have not been subjected to tightness testing. There has been no evidence of release from these USTs, but due to the fact that they have not been leak-tested, the possibility of future leakage cannot be eliminated.

5.0 CONCLUSIONS AND RECOMMENDATIONS

The PA/VSI identified five SWMUs and three AOCs at the PSC facility. Background on the facility's location, operations, waste generating processes, documented release history, regulatory history, environmental setting, and receptors is presented in Section 2.0. SWMU-specific information, such as the unit's description, dates of operation, wastes managed, release controls, history of documented releases, and observed condition, is discussed in Section 3.0. AOCs are discussed in Section 4.0. Following are Dynamac's conclusions and recommendations for each SWMU and AOC. Table 3 identifies the SWMUs and AOCs at the PSC facility and recommended further actions.

Dynamac's conclusions and recommendations for further action for each SWMU are discussed below.

SWMU 1 Central Accumulation Area

Conclusions: This unit is used for storage of hazardous and nonhazardous wastes and product intended for reworking. The area is a concrete-floored shed with no secondary containment structure. There is no evidence of spillage. Runoff is directed to a drainage ditch which discharges to the West Branch of the Du Page River. The potential for release via environmental media is summarized below.

Air: Low. Some of the drums contain volatile materials, but the drums are stored closed.

Soils: Low. The floor is concrete and a concrete pad extends beyond the shed, affording adequate containment of small spills.

Groundwater: Low. The floor is concrete and a concrete pad extends beyond the shed, affording adequate containment of small spills. Soils are clayey and would inhibit downward migration of contaminants.

Surface Water: Low. Storm water runoff is directed to a drainage ditch, but the large concrete pad is adequate to contain small spills.

Recommendations: Dynamac has no recommendations for this unit.

TABLE 3
SWMU AND AOC SUMMARY

<u>Solid Waste Management Unit</u>	<u>Operational Dates</u>	<u>Evidence of Release</u>	<u>Suggested Further Action</u>
1. Central Accumulation Area	1975 to present	None.	None.
2. Waste Toluene Mixture Satellite Accumulation Drums	1972 to present	None.	None.
3. Waste Filter Bags Satellite Accumulation Drum	1972 to present	None.	None.
4. East Dock	1976 to present	None.	None.
5. Empty Drum Storage Area	1972 to present	None.	None.

<u>Area of Concern</u>	<u>Operational Dates</u>	<u>Evidence of Release</u>	<u>Suggested Further Action</u>
1. West Pad USTs	1972 to 1991	Five of fourteen USTs failed tightness test.	Investigate possible solvent contamination of soil and groundwater
2. North Pad USTs	Late 1970s to present	None/ no tightness test conducted.	Conduct tightness tests on USTs, and follow up if any fail.
3. East Pad USTs	1972 to present	None/ no tightness test conducted.	Conduct tightness tests on USTs, and follow up if any fail.

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SWMU 2

Waste Toluene Mixture Satellite Accumulation Drums

Conclusions:

This unit consists of two 55-gallon drums used for waste toluene mixture from mixer and kettle cleanup. Both drums are kept indoors on a concrete floor. The potential for release via environmental media is summarized below.

Air: Low. This unit manages volatile hazardous wastes, but the drums are kept closed when not in use.

Soils: Low. The unit is located indoors on a concrete floor. There are no floor drains, and if spilled, wastes are quickly contained with oil dry.

Groundwater: Low. The unit is located indoors on a concrete floor. There are no floor drains, and if spilled, wastes are quickly contained with oil dry.

Surface Water: Low. The unit is located indoors on a concrete floor. There are no floor drains, and if spilled, wastes are quickly contained with oil dry.

Recommendations: Dynamac has no recommendations for this unit.

SWMU 3

Waste Filter Bags Satellite Accumulation Drum

Conclusions:

This unit consists of one 55-gallon drum which manages waste filter bags generated from filtering of products as they are transferred from the mixers and kettles to drums. The potential for release via environmental media is summarized below.

Air: Low. This unit manages volatile materials, but the drum is kept closed while not being filled.

Soils: Low. This unit is located indoors on a concrete floor. There are no floor drains, and if spilled, wastes are quickly contained with oil dry.

Groundwater: Low. This unit is located indoors on a concrete floor. There are no floor drains, and if spilled, wastes are quickly contained with oil dry.

Surface Water: Low. This unit is located indoors on a concrete floor. There are no floor drains, and if spilled, wastes are quickly contained with oil dry.

Recommendations: Dynamac has no recommendations for this unit.

SWMU 4 East Dock

Conclusions: This unit consists of a large multiple-use room inside the plant. Nonhazardous waste coagulant is stored in three separate areas within this room. The wastes are contained in 1-cubic-yard boxes, 55-gallon fiber barrels, and in 5-gallon pails. The potential for release via environmental media is summarized below.

Air: Low. There are no volatile compounds managed in this unit.

Soils: Low. This unit is located indoors on a concrete floor. There are no floor drains, and if spilled, the wastes are quickly contained with oil dry.

Groundwater: Low. This unit is located indoors on a concrete floor. There are no floor drains, and if spilled, the wastes are quickly contained with oil dry.

Surface Water: Low. This unit is located indoors on a concrete floor. There are no floor drains, and if spilled, the wastes are quickly contained with oil dry.

Recommendations: Dynamac has no recommendations for this unit.

SWMU 5 Empty Drum Storage Area

Conclusions: This unit consists of a designated area on the concrete pad east of the plant. Empty drums are stored (with closed lids) on pallets. One group of drums is returned to the original vendors, and the other group of drums is sent to a drum reconditioner. The potential for release via environmental media is summarized below.

Air: Low. The empty drums contain residues of volatile materials, but are stored closed.

Soils: Low. The empty drums are closed and located on a concrete pad.

Groundwater: Low. The empty drums are closed and located on a concrete pad.

Surface Water: Low. The empty drums are closed and located on a concrete pad.

Recommendations: Dynamac has no recommendations for this unit.

AOC 1

West Dock USTs

Conclusions:

This AOC consists of 14 steel USTs of 5,000-gallon and 10,000-gallon capacities. The USTs were used for bulk storage of a variety of solvents. This AOC was designated because five of the USTs located under the West Dock leaked during tightness testing in 1991. There has been no documented release from the USTs to surrounding soils; however, there has been no soils investigation to determine whether a release may have occurred. All 14 USTs are empty. The potential for release via environmental media is summarized below.

Air: Low. No air releases were documented by a flammable vapor meter during tightness testing. The USTs are currently empty.

Soils: Moderate. There has been no documented release to soils, and no inventory discrepancies to indicate that a release may have occurred. However, no soils investigation has been performed to confirm the lack of release.

Groundwater: Moderate to low. There has been no documented release to soils. Soils are clayey and would inhibit downward migration of contaminants, and groundwater is estimated to be approximately 40 feet BGS. However, factors such as soil non-homogeneity and rain infiltration may increase migration.

Surface Water: Low. There has been no surficial release of contaminants, and the USTs are now empty.

Recommendations: Dynamac recommends that soil and groundwater at this area be investigated to determine whether a solvent release has occurred. If there has been a release, appropriate remediation measures should be initiated.

AOC 2

North Pad USTs

Conclusions:

This AOC consists of 8 steel 10,000-gallon USTs currently used for bulk storage of a variety of solvents. This AOC was designated because no tightness testing has been conducted on these USTs, which were installed in the late 1970s. There has been no documented release from the USTs to surrounding soils. The potential for release via environmental media is summarized below.

Air: Low. These USTs are regulated under the PSC facility air permit. There is no documentation of emissions from the USTs exceeding permitted levels.

Soils: Moderate. There has been no documented release to soils, and no inventory discrepancies to indicate that a release may have occurred. However, no tightness testing has been performed to assess the integrity of the USTs. Most USTs leak over time.

Groundwater: Moderate to low. There has been no documented release to soils. Soils are clayey and would inhibit downward migration of contaminants, and groundwater is estimated to be approximately 40 feet BGS. However, factors such as soil non-homogeneity and rain infiltration may increase migration.

Surface Water: Low. There is a low potential for a surficial release of contaminants from the USTs.

Recommendations: Tightness testing should be conducted on these USTs, and follow up actions, as appropriate, should be implemented if any of the USTs fail the test.

AOC 3

East Pad USTs

Conclusions:

This AOC consists of three steel 7,500-gallon USTs currently used for bulk storage of molten wax. This AOC was designated because no tightness testing has been conducted on these USTs, which were installed in 1972. There has been no documented release from the USTs to surrounding soils. The potential for release via environmental media is summarized below.

Air: Low. These USTs do not handle volatile materials.

Soils: Moderate. There has been no documented release to soils, and no inventory discrepancies to indicate that a release may have occurred. However, no tightness testing has been performed to assess the integrity of the USTs. Most USTs leak over time.

Groundwater: Moderate to low. There has been no documented soils release. Soils are clayey and would inhibit downward migration of contaminants, and groundwater is estimated to be approximately 40 feet BGS. However, factors such as soil non-homogeneity and rain infiltration may increase migration.

Surface Water: Low. There is a low potential for a surficial release of contaminants from the USTs.

Recommendations: Tightness testing should be conducted on these USTs, and follow up actions, as appropriate, should be implemented if any of the USTs fail the test.

REFERENCES

- Carol Stream Water Department, 1992. Bob Hoffrage, Foreman. Telephone conversation with Russ Crittenden, Dynamac, February 6.
- Creative Products, Inc. (CPI), 1991. Letter to PSC detailing results of tank tightness testing, August 5.
- Federal Emergency Management Agency (FEMA), 1982. Flood Insurance Rate Map for Carol Stream, Illinois.
- Hughes, G., P. Kraatz, and R. Landon, 1966. Bedrock Aquifers of Northeastern Illinois. Illinois State Geological Survey, Circular 406.
- Illinois Environmental Protection Agency (IEPA), 1976. Division of Air Pollution Control (DAPC). Air Quality Inspection Report, February 4.
- IEPA, 1980. DAPC. Air Quality Inspection Report, September 23.
- IEPA, 1981. DAPC. Air Quality Inspection Report, September 21.
- IEPA, 1984. DAPC. Air Quality Inspection Report, October 3.
- IEPA, 1985. DAPC. Air Quality Inspection Report, December 19.
- IEPA, 1986a. Division of Water Pollution Control (DWPC). Reconnaissance Inspection Report Form, April 1.
- IEPA, 1986b. DWPC. Compliance Inquiry Letter, May 28.
- IEPA, 1986c. DAPC. Air Quality Inspection Report, December 19.
- IEPA, 1988a. DAPC. Air Quality Inspection Report, January 7.
- IEPA, 1988b. Division of Land Pollution Control (DLPC). RCRA Compliance Inspection Report, February 9.
- IEPA, 1988c. DLPC. Letter to William Oswald, Pierce and Stevens Chemical Corp. (PSC), October 17.
- IEPA, 1989. DAPC. Air Quality Inspection Report, January 4.
- IEPA, 1990. DAPC. Air Quality Inspection Report, January 26.

REFERENCES - Continued

- IEPA, 1991a. DAPC. Air Quality Inspection Report, February 5.
- IEPA, 1991b. DAPC. Compliance Inquiry Letter, February 11.
- IEPA, 1991c. DAPC. Air Operating Permit, May 10.
- IEPA, 1991d. DWPC. National Pollutant Discharge Elimination System Permit, June 10.
- Lineback, J., 1979. Quaternary Deposits of Illinois. Map, 1:500,000.
- National Oceanographic and Atmospheric Agency (NOAA), 1979. Climatic Atlas of the U.S., Ashville, NC, 1979.
- NOAA, 1990. Local Climatological Data, Chicago, IL.
- PSC, 1980. RCRA Part A Permit Application (EPA Form 3510-1), November 19.
- PSC, 1986. William Oswald. Letter to IEPA, DWPC, June 3.
- PSC, 1988a. Facility Part A Withdrawal Request Form (IL 532 - 1489 LPC 233 8186), March 11.
- PSC, 1988b. William Oswald. Letter to IEPA, DLPC, August 11.
- PSC, 1991. "Permit Appeal and Request for Hearing", before the Illinois Pollution Control Board, June 18.
- PSC, 1992. Kevin Togami, Engineer. Telephone conversation, contacted by Russ Crittenden, Dynamac Corporation, February 26.
- Pratt and Lambert, 1991a. Letter to IEPA, DWPC, January 14.
- Pratt and Lambert, 1991b. Letter to IEPA, DAPC, March 1.
- Pratt and Lambert, 1991c. 20-Day Report concerning UST testing, August 27.
- Pratt and Lambert, 1991d. 45-Day Report concerning UST testing, September 19.
- Schicht, R., J. Adams, and J. Stall, 1976. "Water Resources Availability, Quality and Cost in Northeastern Illinois", Illinois State Water Survey Report of Investigation 83.
- Soil Conservation Service (SCS), 1979. Soil Survey of Du Page County, Illinois, May.

REFERENCES - Continued

- U.S. Department of the Interior (USDI), undated. National Wetlands Inventory Maps, 1 : 24,000 scale, Lombard and West Chicago, IL, Quadrangles. Based on aerial photographs taken April, 1983.
- U.S. Geological Survey (USGS), 1962. Topographic maps, 1:24,000, 7.5 minute series, Lombard and West Chicago, IL, Quadrangles, Photorevised 1972 and 1980.
- Willman, H.B., 1971. Summary of the Geology of the Chicago Area. Illinois Geological Survey Circular 460.

ATTACHMENT A
VISUAL SITE INSPECTION SUMMARY
AND PHOTOGRAPHS

**VISUAL SITE INSPECTION SUMMARY
PIERCE AND STEVENS CHEMICAL CORP. (PSC)
CAROL STREAM, ILLINOIS 60188
ILD 055 434 443**

DATE : January 27, 1992

FACILITY REPRESENTATIVES : Daniel Fawkes, Operations Manager, PSC
Kevin Togami, Engineer, PSC
James Drzewiecki, Regulatory Facilitator, PSC
Kevin Johnston, Industrial Hygienist,
Pratt and Lambert
Roy Ball, ERM-North Central, Inc.

INSPECTION TEAM : Russ Crittenden, Dynamac Corporation
Joseph Weslock, Dynamac Corporation

PHOTO DOCUMENTATION : Joseph Weslock, Dynamac Corporation

WEATHER CONDITIONS : Cloudy, 30° F

SUMMARY OF ACTIVITIES : The VSI began at 9:30 AM at the PSC facility, located on Kehoe Boulevard in Carol Stream, Illinois. The two facility representatives from Buffalo, New York had not yet arrived, so the start of the inspection was delayed until approximately 10:10 AM. Mr. Crittenden reviewed the purpose of the visit with the facility representatives. Mr. Johnston and Mr. Drzewiecki arrived at approximately 10:20 AM. Mr. Crittenden asked a variety of questions to fill gaps in available file information. Mr. Fawkes and Mr. Togami provided information on the facility history, security, employment, and on the surrounding area. Mr. Crittenden also asked for a copy of the facility's RCRA Notification and Part A, and facility representatives stated that they would look in their files for these documents and forward them to Dynamac.

**VISUAL SITE INSPECTION SUMMARY
PIERCE AND STEVENS CHEMICAL CORP.
CAROL STREAM, ILLINOIS**

The inspection team asked questions about facility history, size, operations and waste streams, quantities, management and disposition. Dynamac also asked about changes in wastes over time. Dynamac then asked about releases to the environment and complaints from nearby residents. Regulatory history, including RCRA, CERCLA, NPDES, Clean Air, and USTs was discussed in detail.

Following this interview, at about 12:00 PM, facility representatives lead a facility walk-through, which included all production areas and SWMUs, and the UST areas. Dynamac took photographs of all SWMUs and AOCs. The SWMUs observed included the Central Accumulation Area (SWMU 1), both Waste Toluene Satellite Accumulation Drums (SWMU 2), the Waste Filter Bags Satellite Accumulation Drum (SWMU 3), the East Dock (SWMU 4), and the Empty Drum Storage Area (SWMU 5). The AOCs observed included the West Dock USTs (AOC 1), the North Pad USTs (AOC 2), and the East Pad USTs (AOC 3).

The inspection team then asked additional questions regarding wastes and SWMUs which arose during the walk-through. Afterwards, Dynamac conducted a brief exit interview before leaving the facility at approximately 1:30 PM.



Photo No.: 1
Orientation: East
Description: Locked gate to Central Accumulation Area.

Location: SWMU 1
Date: January 27, 1992



Photo No.: 2
Orientation: North
Description: Eleven drums of hazardous waste toluene mixture in Central Accumulation Area. Stacked empty drums in background are in Empty Drum Storage Area (SWMU 5).

Location: SWMU 1
Date: January 27, 1992



Photo No.: 3 **Location:** SWMU 1
Orientation: East **Date:** January 27, 1992
Description: Nonhazardous waste coagulant in fiber barrels on right. Rework material in steel drums on left.

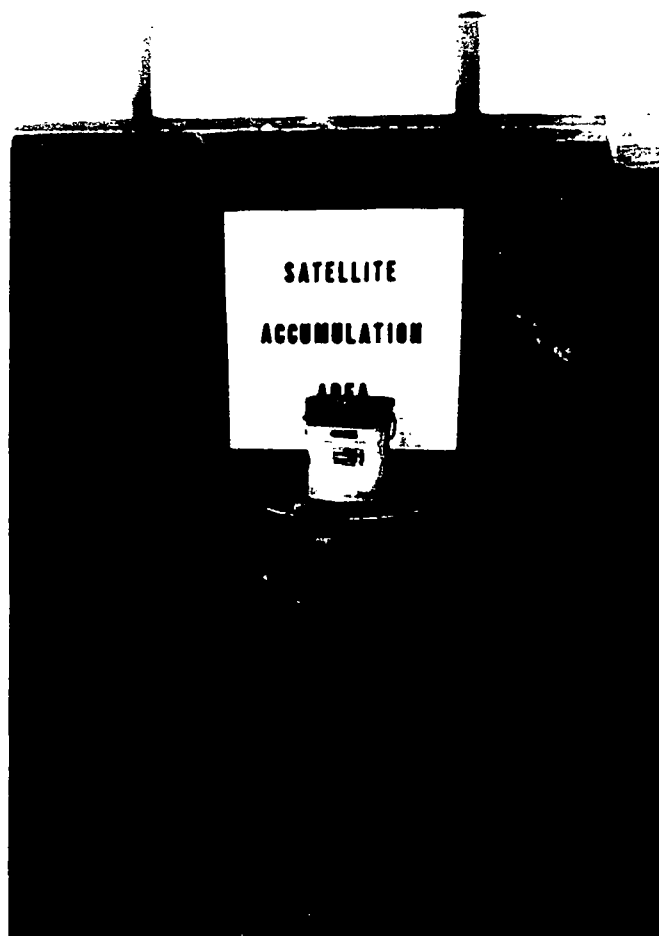


Photo No. : 4
Location : SWMU 2
Orientation : West
Date : January 27, 1992
Description : Waste Toluene Mixture
 Satellite Accumulation Drum located on second floor of the manufacturing area.



Photo No. : 5
 Location : SWMU 2
 Orientation : Southeast
 Date : January 27, 1992
 Description : Waste Toluene
 Mixture Satellite Accumulation Drum
 located on first floor of manufacturing
 area.



Photo No.: 6
 Orientation: North
 Description: Waste toluene mixture in labeled drum placed in finished goods warehouse during transit to
 Central Accumulation Area (SWMU 1).

Location: Finished Goods
 Date: January 27, 1992



Photo No.: 7

Orientation: East

Description: Waste Filter Bags Satellite Accumulation Drum in manufacturing area.

Location: SWMU 3

Date: January 27, 1992



Photo No.: 8

Orientation: North

Description: East Dock. Two white 1-cubic-yard boxes of nonhazardous waste coagulant visible on left. One steel drum, one fiber barrel, and one five-gallon pail of waste coagulant are on far right.

Location: SWMU 4

Date: January 27, 1992



Photo No.: 9
Orientation: North
Description: East Dock. Fiber barrels of nonhazardous waste coagulant.

Location: SWMU 4
Date: January 27, 1992



Photo No.: 10
Orientation: Southwest
Description: Empty Drum Storage Area. Approximately 150 empty drums for return to original vendor. Concrete pad in foreground overlies the East Pad USTs (AOC 3).

Location: SWMU 5
Date: January 27, 1992



Photo No.: 11

Location: SWMU 5

Orientation: South

Date: January 27, 1992

Description: Empty Drum Storage Area. Empty drums for shipment to drum reconditioner. Central Accumulation Area (SWMU 1) shed located is immediately behind empty drums.

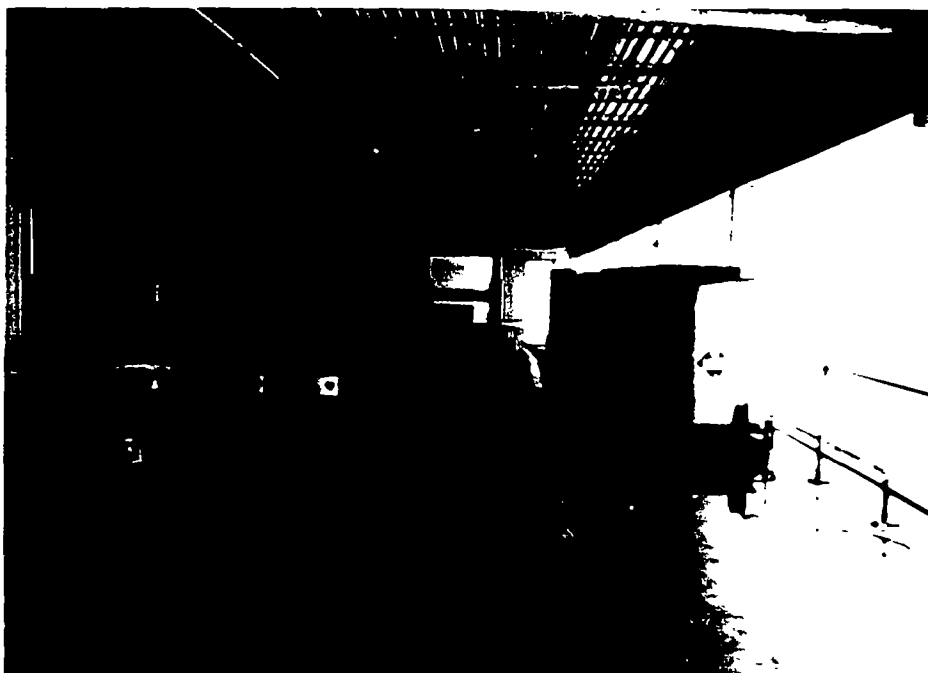


Photo No.: 12

Location: AOC 1

Orientation: South

Date: January 27, 1992

Description: West Dock USTs located under concrete. Drums of rework material are stored on concrete.

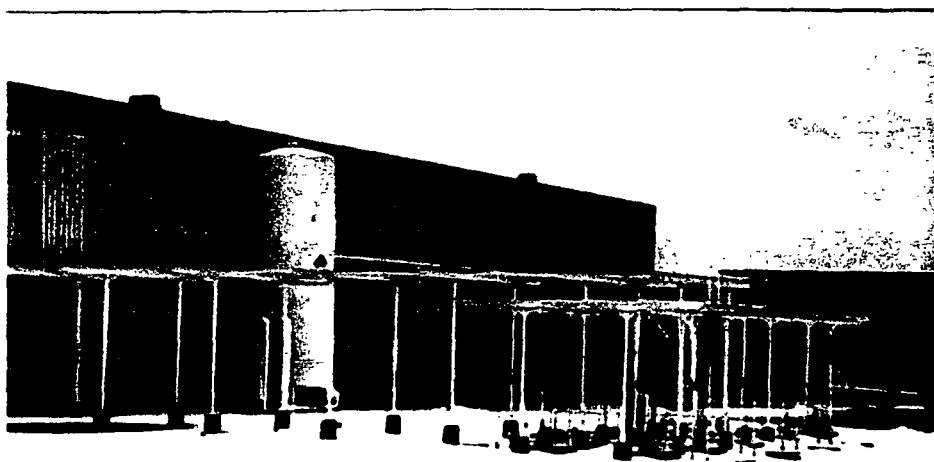


Photo No.: 13
Orientation: Southwest
Description: North Pad USTs.

Location: AOC 2
Date: January 27, 1992

END OF PHOTOGRAPHS

ATTACHMENT B
VISUAL SITE INSPECTION FIELD NOTES

1/27/92 hgl. overcast, $\approx 30^{\circ}\text{F}$ 9:30 AM

Joe Weslock & Russ Gutterden, Dynamac
arrived at Price & Stevens, met by
Kevin Togami of P & S & Roy Bell,
EAM (contractor) & C. Daniel Finkler,
operations mgr. - waiting for 2 company
reps from corporate

Total property - around 11 acres (497,000 sq. ft.)

at 10 AM, began inspection, stopped
waiting for corporate folks

Russ provided overview of inspection
to facility representatives

overview of facility:

operations began here in 1972 -
prior to that, farmland

currently, immediate surroundings is
industrial park; nearest residence,
3/4 mile west, across Gary St.

employs 36 (2025 in production)
- 2 shifts/day

gon

Summary of Processes -

high coatings & adhesives -
blended VOCs, + a couple water-based
dispersions; polymer in solvent,
remove solvent, leaving water-based.

in last 2 yrs, introduced coating on
plastic microspheres w/ inert powders
(CaCO_3) & expanding

requested clarification of chromate
release toxic outfall - not used in
processes, for reps not familiar w/
situation

≈ 18 mixers/kettles in plant

3 used for waxed polymer (Kent-coat)

3 water-based

≈ 10 solvent-based

about 3-4 solvent baths -

1 maintenance

1 hot bath

1-?

gm

raw materials used:

resins } bags or pallets
polymers } or fiber drums

approx 10:20, joined by Kevin Johnson &
Jim Przewiecki

nut
↑
plasticizer (liquid), 55-gal drums
soaps fiber drums
mineral oils } pails &/or can bags
silicon oils

waxes - pallets
(some molten bulk)

solvents: bulk &/or drums
acids & caustics - drums or can bags

main solvents: toluene
acetone
MEK

isopropyl acetate
isopropyl alcohol

gan

no chlorinated solvents,
some xylene

bulk solvents in tanks, 5,000 & 10,000 gal
cap.

solvent used in batch used to
clean tanks, line, filter \Rightarrow solvent
used as make-up in next batch

occasional dirty solvent, from exterior of
miser area -

drum marked & taken to
upstairs' house or west, check
"laquer" railroad

\rightarrow no PCB-transformers on site

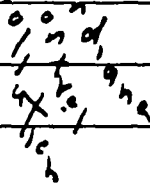
\rightarrow chromin release due to boiler chemicals

Price & Stevens Corp. wholly-owned
subsidiary of Pratt & Lambert

~~gm~~

wash chains

- 2-drum are areas - satellite areas -
feed into - central area

$$\Rightarrow P \subset A$$


→ fuel blend

- ② waste material - from chrysine in
process - collected in boxes -
2 ~~to~~ 1 yd³ box - corrugated fiberboard
- kept on chum block
- handled

gan

central storage - separate shed

③ toluene filter bags - not drawn off
from kettle, flushed over then
filter - screens undissolved material,
shit, etc.. when changed removed.
filters drummed & taken to central storage area

-> EWR - service that removes waste

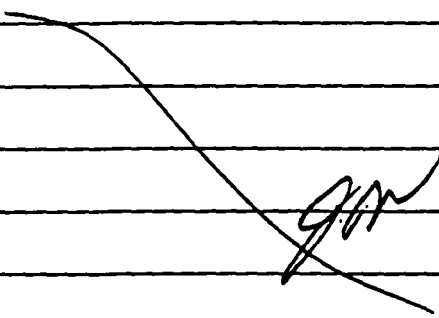
non-haz waste streams:

cartons, bags, pallets, lub jars,
sweepings

empty product drums & re-conditioners
- cartons to manufacturer -

accumulated on east gravel outside
2150 drums / load - not sure how frequent

no complaints from community

 JPR

all tanks - underground

{ 12 tanks - most double (coherent)
10 - 5,000 gal
2 - 10,000 gal

8 - 10,000-gall - in storage pad } in use

3 max tanks - 7,500-gallon

only not in use)

{ leak test 7 yrs ago - 5 failed
all 12 emptied => working thru
UST (IEPA) process

neatly enclosed in concrete

-> USTs near sewer by X-ray sensor
monitored - no detection of contaminants

gon

no other recorded releases

Reg. history

-> no recollection of documentation of
Notification or Part A.

-> believed in early 1980s, & administratively
unknown

-> closure activities:

fax sent 6/20/88 - unknown of Part A

-> company started - never used > 90-day storage

no AURA info. since 1988 CEI

NPOES - removed in '91.

air permit - early 90 - covering w/
state air monitoring reqs.

gpm

area is on deep well - $\approx 1,500$ ft. - lake
water is coming - not aware of where
well field is.

Carol Stream population: (32,000 on sign)

storm sewers lead to West Branch,
DuPage river.

11:20 - broke to begin facility tour

Photo #1 (w) "Sat Acc" Drum
- "minimax"

FOO 5, FOO 3 1/24/92 (T/Lene)
+ acc knc

Photo 2: East Dock

4-1 yd³ boxes coagulant

2 drums + 1 bucket

gon

Photo #3 (N)

Dust collector from
new process

photo #4 (N)

(E) Photo #5 - solvent bag SAA drum
FCO5, no start date

Photo 6 - Incl "Sat Acc" drum

FOO 3, FCO5, DCO 1 (these)

1/25/92 start date

- closed funnel

- East/S/E

✓
gon

Photo 7 (S) staging Area for
hay waste - 1 drum (toluene)

1/20/92 start date

Photo 8 (Central Acc Area) (E)

- alum walk - concrete pad &
steel gate

25 x 50 sq. Ft

Photo 9: (N) - hay drums

(n) 1/20 -> 1/24 acc. dates

Photo 10 (E) - fiber drums -
non-hay.

$$\begin{array}{r} 13 \\ \times 4 \\ \hline 52 \end{array}$$

+ 3

55 - 33 gal fiber drum

gan

Photo 11⁴¹² (S/W)

empty drum storage - recon.
" " " " - re-use - sent
back to mfg.

Photo 13 - S/W

VST farm - 8 VSTs - in op.
installed - late 1970s

still monitored weekly &
on demand

Photo 14 - (S) - VST farm -
under 20x120 area -
4' high concrete vaults

12:45 - concluded facility walk - then &
returned to meeting room for
final questions & VSI scene

gar

Central Accumulation Area -

1st used for waste acc. -

bdy built in mid-70s (75 or 76)

in use in '89, not sure of exact date -
may be on Part A

Sat Acc Drums: since beginning of ops.

East Storage Dock: coagulant - ^{since} 1976

Empty Drums: since early 1970s

RR Tanker - original cost (1972)

new tanks - 1972

East Dock - about 1 1/2 yrs ago

~~gm~~

200 drums every 7-10 days
(21 times total / total)

thanked fac. reps for cooperation,
concluded the VSI, & left the
facility around 1:30 pm

gon